

LISTING OF CLAIMS

The following listing of claims replaces all prior versions:

1-50 CANCELED

51. (New) A method of detecting a target nucleic acid sequence in a sample, comprising:
contacting the sample with an oligonucleotide specific for hybridizing to the target sequence labeled with a fluorophore and a quencher, wherein the quencher is an α -aminoanthraquinone, and wherein fluorescence of the fluorophore can be reduced by energy transfer to the quencher or by ground state quenching by the quencher; and
detecting a change in fluorescence.
52. (New) The method of claim 51, wherein the quencher is an α -alkylaminoanthraquinone or an α -arylaminoanthraquinone.
53. (New) The method of claim 51, wherein the quencher is a non-fluorescent quencher.
54. (New) The method of claim 51, wherein the quencher is a di- α -aminoanthraquinone.
55. (New) The method of claim 54, wherein the quencher is a di- α -alkylaminoanthraquinone, a di- α -arylaminoanthraquinone or an α -alkylamino- α -arylaminoanthraquinone.
56. (New) The method of claim 51, wherein fluorescence is reduced by fluorescent energy transfer.
57. (New) The method of claim 51, wherein fluorescence is reduced by ground state quenching.
58. (New) The method of claim 51, wherein fluorescence is reduced by fluorescent energy transfer and ground state quenching.
59. (New) The method of claim 51, wherein the change in fluorescence is a decrease in fluorescence.

60. (New) The method of claim 51, wherein the change in fluorescence is an increase in fluorescence.

61. (New) The method of claim 60, wherein the increase in fluorescence arises from cleavage of the labeled oligonucleotide.